

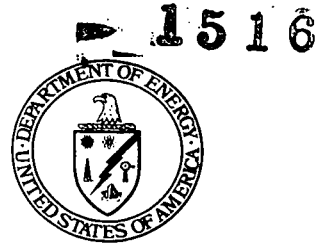


5-209.10

**Department of Energy**

**Ohio Field Office  
Fernald Area Office**

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**JUN 16 1998**

**DOE-0890-98**

**Mr. James A. Saric, Remedial Project Manager  
U.S. Environmental Protection Agency  
Region V-SRF-5J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590**

**Mr. Tom Schneider, Project Manager  
Ohio Environmental Protection Agency  
401 East 5<sup>th</sup> Street  
Dayton, Ohio 45402-2911**

**Dear Mr. Saric and Mr. Schneider:**

**DRAFT FINAL AREA 1, PHASE II SECTOR 1, 2A, AND CONVEYANCE DITCH  
CERTIFICATION REPORT AND RESPONSES TO COMMENTS**

This letter transmits responses to comments received from the U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA) on the Draft Final Certification Report for Area 1, Phase II Sector 1, 2a, and the Conveyance Ditch. All comments have been incorporated into the revised Certification Report, and the conclusion remains that remedial actions in this area of the site are complete and final remediation levels have been successfully attained. The primary changes to the report include the following: Incorporating the agreed upon revisions to the certification summary statistics tables; incorporating corrective actions for Certification Units, which passed certification, but have localized contamination; and correction some radiological results to the minimum detectable concentrations (see OEPA comment Response Action #25)

Upon your concurrence these areas will be released for site preparation activities for Area 1, Phase II remediation activities, construction of On-Site Disposal Facility (OSDF) Cell Number 3, and the development of a borrowed area for the OSDF.

If you have any questions regarding this matter, please contact Robert Janke at (513) 648-3124.

Sincerely,



Johnny W. Reising  
Fernald Remedial Action  
Project Manager

FEMP:Nickel

Enclosures: As Stated

cc w/encs:

G. Jablonowski, USEPA-V, SRF-5J  
R. Beaumier, TPSS/DERR, OEPA-Columbus  
T. Schneider, OEPA-Dayton (total of 3 copies of enc.)  
F. Bell, ATSDR  
M. Schupe, HSI GeoTrans  
R. Vandegrift, ODH  
F. Barker, Tetra Tech  
D. Carr, FDF/52-2  
A. Duarte, FDF/35  
T. Hagen, FDF/65-2  
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N. Hallein, EM-42/CLOV  
A. Tanner, DOE-FEMP  
R. Heck, FDF/2  
S. Hinnefeld, FDF/2  
EDC, FDF/52-7

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**RESPONSES TO U.S. EPA TECHNICAL REVIEW COMMENTS ON THE  
CERTIFICATION REPORT FOR AREA 1, PHASE II - SECTOR 1, 2A,  
AND CONVEYANCE DITCH**

**GENERAL COMMENTS**

Commenting Organization: U.S. EPA  
Section #: A-2 through A-23      Page #: Not Applicable (NA)  
Original General Comment #: 1  
Comment: These tables should include the concentration or activity units for the listed contaminants. This omission is especially confusing for polychlorinated biphenyls, which are apparently listed in micrograms per kilogram in Tables A-22 and A-23 but in milligrams per kilogram (mg/kg) in Table 2-2. In addition, the table number should be included in the header of each of these tables of results.

Response: Agreed. The revised document will include the units and the header.

Action: Modify Appendix A accordingly.

**SPECIFIC COMMENTS**

Commenting Organization: U.S. EPA  
Section #: 2.2.4      Page #: 2-5  
Original Specific Comment #: 1  
Comment: The text refers to certification unit (CU) A1PII-S2-17. The text should be corrected to refer to CU A1PII-S1-17.

Response: Agreed. The CU in question is A1PII-S1-17.

Action: The text will be changed accordingly.

Commenting Organization: U.S. EPA  
Section #: 5.2      Page #: 5-1  
Original Specific Comment #: 2  
Comment: The text states that elevated lead and arsenic values in Sample 10 are an isolated occurrence and "sufficiently bounded." It is not clear what is meant by "sufficiently bounded" and why this conclusion is justified. The text should be revised to justify the use of this term and the U.S. Department of Energy (DOE) should consider taking further action at this location.

Response: As shown in Figures 5-1 and 5-2, six samples are within the area surrounding sample A1PII-S1-19-10 which show no contamination. As discussed with the regulatory agencies, the corrective action will be to take a six inch stripping around a sixteen foot radius of sample A1PII-S1-19-10, approximately 15 cubic yards. The excavated material will be stockpiled in the trap range to be treated. A figure will be included in the Certification Report to show the planned excavation area and the stockpile area in the trap range.

Action: Revise text to discuss removal of the soil surrounding sample A1PII-S1-19-10.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: A-1

Page #: NA

Line #: NA

Original Specific Comment #: 3

Comment: This table, which lists final sampling locations, was omitted from the reviewed copy of the report. Table A-1 should be included in the final report.

Response: There was an error in the Appendix A index, there is no Table A-1. Figure A-1 shows all the sample locations.

Action: Appendix A will be corrected.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: A-3

Page #: NA

Line #: NA

Original Specific Comment #: 4

Comment: The table lists a final remediation level for lead as 1.50. This value should be corrected to 400 mg/kg.

Response: Agreed.

Action: The final tables will be revised accordingly.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: A-20

Page #: NA

Line #: NA

Original Specific Comment #: 5

Comment: The statistical test procedure listed for lead is "median." However, neither the text nor Figure G-1 of the current (April 1998) edition of the Sitewide Excavation Plan (SEP) mentions such a test. It is likely that the test of proportions was used on lead data. Calculations should be checked and corrections made, as necessary, to bring this report in line with SEP-specified procedures.

Also, the tabulated maximum value for thorium 228 is 1.12 picocuries per gram (pCi/gm), but the tabulated result for sample A1PII-S1-19-04 is 1.13 pCi/gm. This discrepancy may have resulted from the use of truncation versus rounding off during tabulations. DOE should determine the cause of this discrepancy and correct all associated values as necessary.

Response: Median refers to the comparison of the upper confidence limit of the Median against the FRL. This is reference in Section G.2.2.4 of Appendix G in the SEP. In Figure G-1 this procedure is shown as "Use Binomial Quantile Method." With the binomial quantile method the test comparison is between the 50th quantile against the FRL. The 50th quantile of a dataset is also referred to as the median.

DOE agrees that maximum result for Thorium 228 for A1PII-S1-19 should be 1.13 pCi/g. The table will be revised to reflect this correction.

Action:

1. The SEP will be clarified regarding the Binomial Quantile Method.
2. The Appendix A Summary Statistics will be revised for CU A1PII-S1-19 for Thorium 228.

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**RESPONSES TO OHIO EPA COMMENTS ON THE  
AREA 1, PHASE II, SECTOR 1, 2a, AND CONVEYANCE DITCH  
CERTIFICATION REPORT**

Commenting Organization: Ohio EPA  
Section #: General Comment Pg #: Line #: Commentor: OFFO  
Code: C

Comment #: 1

Comment: As discussed at Ohio EPA, US EPA & DOE's May 12th meeting, we are concerned with ensuring the ability to recreate units and track long-term areas which are certified. At the meeting we concluded a controlled master map was needed to track CU's with an appropriate level of accuracy as well as including a copy of that map into each Certification Report and CDL. Ohio EPA believes incorporating such a map into this report and all future ones is needed.

Response: Agreed.

Action: The subject map will be included in the revised report. Furthermore, the final SEP will include this requirement in Section 7.0.

Commenting Organization: Ohio EPA  
Section #: General Comment Pg #: Line #: Commentor: HSI GeoTrans  
Code: C

Comment #: 2

Comment: Certification units are referred to inconsistently throughout the document. For example, on page 1-1, line 24, a CU is referred to as A1PII-S2-2A-01. The same CU is referred to as A1PII-S2A-01 on page 2-4 line 6. A single nomenclature system for CUs should be used throughout the document.

Response: Agreed.

Action: The text will be revised so that the same nomenclature system is used. The correct designation for the CU in question is A1PII-S2-2A-01.

Commenting Organization: Ohio EPA  
Section #: Exec. Summary Pg #: ES-2 Line #: 7-15 Commentor: OFFO  
Code: C

Comment #: 3

Comment: Include in the most significant changes, the movement of sample locations along the new north access road and associated CU boundary change.

Response: Agreed.

Action: The text will be revised accordingly.

Commenting Organization: Ohio EPA  
 Section #: Exec. Summary Pg #: ES-2  
 Comment #: 4

Line #: 19-20

Commentor: OFFO  
 Code: C

Comment: The document should include a discussion of issues associated with ASL for uranium relative to the Contract Required Detection Limit. Ohio EPA understands that uranium data is reported at ASL E rather than the referenced D. A brief discussion of this change, including the agreement that use of 10% of the FRL for detection limit is acceptable, needs to be included in the document.

Response: Agreed. A discussion regarding ASLs will be included in the document. Specifically, the ASLs will be defined in the context of either analytical requirements, data packages, or detection limits. For all the certification data, ASL D analytical requirements were selected per Appendix G of the Sitewide Quality Assurance Plan (SCQ), and the laboratory reported an ASL D data package, which includes all the raw data. As previously discussed the detection limit for uranium was set at 10% of the FRL (8.2 ug/kg), which is higher than the detection limit in Appendix G. Therefore, by definition, the ASL detection limit for uranium is ASL E.

Action: The text will be revised to reflect the above discussion.

Commenting Organization: Ohio EPA  
 Section #: 2 Pg #: 2-5  
 Comment #: 5

Line #: 2-10

Commentor: HSI GeoTrans  
 Code: C

Comment: To avoid confusion on the number of samples that were analyzed for each CU, this paragraph should summarize the bulleted information in Section 3.2. A concise summary of the number of samples used in the analysis for each CU should be provided at one location in the document for clarity.

Response: This information will be added for clarity.

Action: Add a bulleted summary of the information in Section 3.2.

Commenting Organization: Ohio EPA  
 Section #: Figure 2-1 Pg #:   
 Comment #: 6

Line #:

Commentor: OFFO  
 Code: C

Comment: It is difficult from this figure and any subsequent ones to clearly see the changes made to CU A1PII-S2-A-02. A more detailed figure showing the changes in sampling locations and CU boundary should be included.

Response: Agreed.

Action: A revised figure with the appropriate scale will be included showing the changed sample locations and CU boundary.

Commenting Organization: Ohio EPA  
 Section #: 3.2 Pg #: 3-1  
 Comment #: 7

Line #: 28-32

Commentor: OFFO  
 Code: C

Comment: Ohio EPA does not agree with the method used for evaluating the additional samples. Simply combining the data is not an acceptable statistical method. The appropriate method is to evaluate the data separately and to determine if the two populations are different.

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Additionally, Ohio EPA believes it was obvious that the CU had received uncontrolled runoff from the East Impacted Stockpile. The most appropriate course of action would be to resample the entire CU, at a minimum the data sets must be evaluated separately. Ohio EPA expects that in the future DOE will take action to ensure run-on is controlled for areas in which certification sampling is completed.

**Response:** Agreed. While a field inspection of the A1PII-S2-2a-01 showed that the CU may have received runoff from the East Impacted Stockpile, the appropriate course of action would have been to establish stormwater controls prior to the certification sampling. As discussed in the report, the immediate corrective action was to collect an additional three samples at the locations where the CU may have been the most contaminated. None of the results for these three samples approached the FRL for any of the ASCOCs. The total uranium results were 15.26 ug/g, 15.03 ug/g, and 9.57 ug/g, and the UCL for the CU without these samples is 6.17 ug/g. While it is possible that the slightly elevated results (as compared to the UCL for CU) for the three corrective action samples could be attributed to the uncontrolled run-off, the results are still well below the FRL. Fortunately, the lack of adequate stormwater controls in this CU did not jeopardize the attainment of the certification criteria. In the future, no certification sampling will be performed without ensuring that adequate stormwater controls are in place.

The statistical analysis of CU A1PII-S2a-01 included in Appendix A includes an evaluation of the certification criteria with the additional 3 samples and without the additional samples. The CU passes certification both ways.

**Action:** The revised SEP will include a requirement that future certification activities will ensure that proper controls will be in place prior to certification sampling, especially when a CU is adjacent to an impacted stockpile.

**Commenting Organization:** Ohio EPA

**Commentor:** HSI GeoTrans

**Section #:** 3

**Pg #:** 3-1

**Line #:** 33

**Code:** C

**Comment #:** 8

**Comment:** There is no CU A1PII-S2-01. The correct CU is probably A1PII-S1-01.

**Response:** The subject CU is A1PII-S1-01.

**Action:** The text will be revised.

**Commenting Organization:** Ohio EPA

**Commentor:** OFFO

**Section #:** 3.2

**Pg #:** 3-1

**Line #:** 33-37

**Code:** C

**Comment #:** 9

**Comment:** The combining of data from separate populations or non-homogenous areas is not acceptable. Ohio EPA expects that data from the pile will be evaluated separately from that of the remainder of the CU.

**Response:** Agreed. The data for the samples from the pile will be evaluated separately.

**Action:** Revise text and Appendix A accordingly.

Commenting Organization: Ohio EPA  
 Section #: 3.2 Pg #: 3-2 Line #: 11-12 Commentor: OFFO  
 Code: C  
 Comment #: 10

Comment: Ohio EPA is unclear on what this modification is referring too. A figure showing the change in CU boundary is needed along with additional text.

Response: The original design for CU A1PII-S1-19 had the CU boundary include only part of the trap house building. The CU design was modified to include the entire building, and the sample points were re-generated. A figure will be included in the text showing the change in design.

Action: The text will be clarified and a figure will be included.

Commenting Organization: Ohio EPA  
 Section #: 4 Pg #: 4-6 Line #: 15 Commentor: HSI GeoTrans  
 Code: C  
 Comment #: 11

Comment: The practice of averaging duplicate concentrations is not appropriate for soil certification. The maximum value between the two duplicates should be used.

Response: The maximum value will be used.

Action: The certification statistics have been recalculated using the highest value, and will be provided in the revised document. All CUs still pass the certification criteria.

Commenting Organization: Ohio EPA  
 Section #: 5 Pg #: 5-1 Line #: 9 Commentor: HSI GeoTrans  
 Code: E  
 Comment #: 12

Comment: Revise text from "samples were collected help refine" to "samples were collected to help refine."

Response: Agreed.

Action: Text will be revised accordingly.

Commenting Organization: Ohio EPA  
 Section #: 5.1 Pg #: 5-1 Line #: 14-21 Commentor: OFFO  
 Code: C  
 Comment #: 13

Comment: These data represent a hot spot which should be removed and not reused. Ohio EPA recommends removal of the soil in the bounded area with subsequent placement inside the trap range for treatment with other lead contaminated soil. Any other use of the soils will require TCLP analysis for RCRA characterization.

Response: As shown in Figures 5-1 and 5-2, the area surrounding sample A1PII-S1-19-10 has been bounded within the CU area. As discussed with the regulatory agencies, the corrective action will be to take a six inch stripping around a sixteen foot radius of sample A1PII-S1-19-10. During excavation of the interception ditch in this area, approximately 15 cubic yards of excavated surface soil surrounding this sample will be stockpiled in the trap range and treated. A figure will be included in the Certification Report to show the planned excavation area and the stockpile area in the trap range.



Action: Revise text to discuss removal of the soil surrounding sample A1PII-S1-19-10.

Commenting Organization: Ohio EPA

Commentor: HSI GeoTrans

Section #: 5

Pg #: 5-1

Line #: 21

Code: C

Comment #: 14

Comment: The statement that the extent of high lead concentration levels is bounded by the surrounding samples is unjustified. Even though there are samples within approximately 25 feet of Sample 10 to the north and east, the nearest samples in other directions are considerably further away (more than 100 feet). Specific hot spot criteria (analogous to that which exists for the primary radiological COCs) should be developed and implemented for nonradiological COCs.

Response: See response to Ohio EPA Comment No. 13. As agreed with the regulatory agencies, the corrective action for the elevated result is to segregate 15 cubic yards of excavated soil around the sample. A figure will be included in the Certification Report to show the planned excavation area and the stockpile area in the trap range. In the future, potential need of further excavation due to any non primary radiological ASCOCs exceeding two times the FRL will be evaluated on a case by case basis with the regulatory concurrence on the final strategy. The final SEP will reflect this strategy.

Action: Revise text to discuss removal of the soil surrounding sample A1PII-S1-19-10.

Commenting Organization: Ohio EPA

Commentor: HSI GeoTrans

Section #: 5

Pg #: 5-1

Line #: 24

Code: E

Comment #: 15

Comment: Revise "that will released" to "that will be released."

Response: Agreed.

Action: The text will be revised accordingly.

Commenting Organization: Ohio EPA

Commentor: HSI GeoTrans

Section #: 5

Pg #: 5-1

Line #: 28

Code: E

Comment #: 16

Comment: Revise "where is culvert" to "where a culvert."

Response: Agreed.

Action: The text will be revised accordingly.

Commenting Organization: Ohio EPA

Commentor: HSI GeoTrans

Section #: 5

Pg #: 5-2

Line #: 5

Code: C

Comment #: 17

Comment: The planned culverts are not shown on Figure 5-3.

Response: The planned culverts are at the location of the addition samples. The figure will be revised for clarity.

Action: Revise figure to show location of the planned culverts.

Commenting Organization: Ohio EPA  
 Section #: 5 Pg #: 5-2 Line #: 6 Commentor: HSI GeoTrans  
 Code: C  
 Comment #: 18  
 Comment: It is not clear what "samples" are meant by the text - the original samples or the additional samples shown on the figure.

Response: The "samples" refer to the original samples, not the samples in the figure.

Action: The text will be revised to for clarity.

Commenting Organization: Ohio EPA  
 Section #: 5.2 Pg #: 5-2 Line #: 8-10 Commentor: OFFO  
 Code: C  
 Comment #: 19  
 Comment: Ohio EPA disagrees that the samples previously collected are sufficient to characterize the area of excavation. Data collected from the area of planned excavation are required to appropriately characterize the soils. The revised report should include data from the area of excavation.

Response: The revised report will include the results from the additional samples in the area. Results from these samples show no contamination above the FRL.

Action: Include additional sample results.

Commenting Organization: Ohio EPA  
 Section #: 5.3 Pg #: 5-2 Line #: 15-16 Commentor: OFFO  
 Code: C  
 Comment #: 20  
 Comment: Ohio EPA disagrees with DOE's assertion that hot spots are only applicable to primary radiological ASCOCs. Hot spot criteria regarding certification sampling should be applicable to all ASCOCs.

Response: In the future, potential need of further excavation due to any ASCOCs exceeding two times the FRL will be evaluated on a case by case basis with the regulatory concurrence on the final strategy.

Action: The final SEP will include the above statement in the section addressing the certification process.

Commenting Organization: Ohio EPA  
 Section #: 5.3 Pg #: 5-2 Line #: Commentor: OFFO  
 Code: C  
 Comment #: 21  
 Comment: Upon reviewing the data for A1PII-S3-CD-01, Ohio EPA recommends the soil from the area be transferred to the OSDF for disposal. Considering the UCL is 80 ppm for total uranium and that the soil will be excavated, Ohio EPA believes this is an appropriate area to utilize the ALARA goal of 50 ppm to make the material disposition decision.

Response: The elevated results in the CD are primarily located in the northern section of the CU (Samples 10, 11, and 16), and one sample (Sample 2) in the southern portion of the CU adjacent to the STP Access Road. Since the elevated values in this CU are localized, DOE will excavate any material up to one foot in depth above northing 479959 (midpoint from Samples 11 and 12) to the northern boundary of the CU. Furthermore, a separate

excavation one foot deep and extending laterally 20 foot radius will be centered around Sample #2. This excavation will terminate at the northern edge of pavement of the STP Access Road. Additionally, this one foot excavation will extend 60 feet beyond the radius in the ditch (for a total of 80 feet) both upstream and downstream from Sample 2. Its width will be from the northern edge of the STP Access Road through the centerline of the ditch and include the ditch's northern bank. The revised UCL is 63.58 ug/g due to the revised detection limits. See Action to Comment No. 25.

Action: The text will be revised to reflect the above discussion including a figure showing the planned excavation.

Commenting Organization: Ohio EPA  
 Section #: 6 Pg #: 6-1 Line #: 13 Commentor: HSI GeoTrans  
 Code: E  
 Comment #: 22  
 Comment: Revise "area must have been clean in accordance" to "area must have been cleaned in accordance."

Response: Agreed.

Action: The text will be revised accordingly.

Commenting Organization: Ohio EPA  
 Section #: 6 Pg #: 6-1 Line #: 14 Commentor: HSI GeoTrans  
 Code: E  
 Comment #: 23  
 Comment: Revise "any use in a uncertified areas" to "any use in uncertified areas."

Response: Agreed.

Action: The text will be revised accordingly.

Commenting Organization: Ohio EPA  
 Section #: Table for A1PII-S1-02 Pg #: Line #: Commentor: OFFO  
 Code: E  
 Comment #: 24  
 Comment: The table references a lead FRL of 1.5 rather than 400. Please revise.

Response: Noted.

Action: The table will be revised.

Commenting Organization: Ohio EPA  
 Section #: Appendix A Pg #: NA Line #: NA Commentor: HSI GeoTrans  
 Code: C  
 Comment #: 25  
 Comment: It is apparent from the certification tables that the assumption of normality (or lognormality for some CUs) has been rejected for numerous data sets. The application of the Shapiro-Wilk test to approximately five percent of the data sets indicates that the rejection of normality was inappropriate in many cases (e.g., Ra-226 for A1PII-S1-01, arsenic for A1PII-S1-02, and RA226 for A1PII-S1-04, and others) thus resulting in the failure to select the most appropriate statistical test. The Shapiro-Wilk procedure used is documented in the US EPA (1993); the calculations were alternatively performed using the commercially available software StatMost (DataMost Corporation, 1995). In order for

review results of the methods applied should be summarized in the document. For example, if the Shapiro-Wilk test was used, the W statistics and associated critical values should be provided.

#### References:

US EPA, 1992, "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities," Addendum to Interim Final Guidance.

DataMost Corporation, 1995, StatMost Version 3.0.

Response: A selection process different from that described in the current SEP was used for some of the CU statistics. The Shapiro-Wilk test procedure was performed on the raw data to assess the assumption of normality and on the (natural) log-transformed data to assess the assumption of lognormality. If both tests failed to reject the assumption of normality/lognormality, then the underlying distribution was assumed to be distribution which yielded the highest probability value from the Shapiro-Wilk tests. If the assumption of normality and lognormality could not be rejected based on the Shapiro-Wilk tests but the p-value for the raw data (normal) exceeded the p-value for the log-transformed data (lognormal), then the assumed underlying distribution was a normal distribution. Conversely, if the p-value for the raw data (normal) was less than the p-value for the log-transformed data (lognormal), then the assumed underlying distribution was a lognormal distribution.

In situations where the data can be assumed to be either normally or lognormally distributed (by failing to reject either hypothesis), the UCL results can be expected to be very similar. Where the p-values are nearly equal, so will the resultant UCLs. The three cases cited in the comment are shown below with the Shapiro-Wilk probabilities and UCL calculations for both normal and lognormal assumptions:

CU	Parameter	Normal p-value	Lognormal p-value	UCL (normal assumption)	UCL (lognormal assumption)	% difference of UCLs (from normal assumption)
A1PII-S1-01	Ra226	.0587	.0971	1.1638	1.1681	0.4%
A1PII-S1-01 (original 16)	Ra226	.1221	.1484	1.2031	1.2103	0.6%
A1PII-S1-02	Arsenic	.1724	.4793	7.1832	7.2612	1.1%
A1PII-S1-04	Ra226	.6262	.6447	1.2104	1.2445	2.8%

In each of the examples given in the comment the Shapiro-Wilk test procedure failed to reject the assumption of both normality and lognormality. Also, in each case, the p-value for the assumption of lognormality was greater than that for normality. DOE concludes that, based on the Shapiro-Wilk p-values, the lognormal assumption was more appropriate for these examples and that the calculation of the UCL based on a lognormal distribution is appropriate.

Therefore, DOE believes that the Shapiro-Wilk procedure was correctly performed and that if the test fails to reject either the normal or lognormal distribution, then the assumed underlying distribution should be that which yields the higher p-value. The highest p-value between the normal and the lognormal tests are listed in the summary tables in Appendix A.

References: All calculations were performed using Statgraphics Plus for Windows v2.1 (Statistical Graphics Corporation, 1994-1996).

Action: The summary tables will be revised accordingly, and this selection process will be incorporated into the final SEP. These changes to Appendix A summary statistics include:

- The units, the W-statistic, the sample size, the estimated mean have all been added to the tables.
- The *a posteriori* test of the number of samples is included on the tables.
- Some radiological values have been corrected to reflect the Minimum Detectable Concentration (MDC). The MDC can be considered the limit of detection, which is sample specific and provided in the data package. The laboratory reported the measured activity for the sample, which on occasion is lower than the MDC. During the validation process the result is adjusted up to the MDC. This adjusted value is used in the revised summary statistics. The data as presented in the May report was validated and accurate, however, the data pull for the summary statistics did not reflect the adjusted MDC.